

Listing of claims

Please cancel claims 17 and 24.

Please amend claims 18, 22, 23, 25, 50, 52, and 53 as follows:

1. (previously presented) A bioresorbable, self-expanding stent comprising:
 a cylindrical sleeve having a first end and a second end;
 a latticed network disposed between said first end and said second end of said cylindrical sleeve;
 said latticed network formed from a plurality of monofilaments, wherein at least two of said monofilaments are braided in an alternating braid pattern;
 said plurality of monofilaments comprises at least one biocompatible polymer, and said cylindrical sleeve having a controllable in vivo lifetime; and
 said self-expanding stent being annealed, and gamma-irradiated by exposure to gamma irradiation in an amount in the range of approximately 35 kGy to 75 kGy.
2. (original) The bioresorbable, self-expanding stent of claim 1 wherein said plurality of monofilaments ranges from 30 to 48 monofilaments.
3. (original) The bioresorbable, self-expanding stent of claim 2 wherein said plurality of braided monofilaments comprise 40 monofilaments.
4. (original) The bioresorbable, self-expanding stent of claim 1 further including at least a single strand shift between each adjacent monofilament.
5. (original) The bioresorbable, self-expanding stent of claim 1 further including an as-braided braid-crossing angle ranging from approximately 100° to 150°.
6. (original) The bioresorbable, self-expanding stent of claim 1 further including an as-braided braid-crossing angle of approximately 110°.

7. (original) The bioresorbable, self-expanding stent of claim 1 further including a post-annealed braid-crossing angle ranging from approximately 125° to 150°.

8. (original) The bioresorbable, self-expanding stent of claim 1, wherein said braid pattern is selected from the group consisting of under-one-over-one, under-one-over-two, under-one-over-three, under-two-over-two, under-two-over-three, and under-three-over-three.

9. (previously presented) A bioresorbable, self-expanding stent comprising:
a cylindrical sleeve having a first end and a second end;
a latticed network disposed between said first end and said second end of said cylindrical sleeve;
said latticed network formed from a plurality of monofilaments helically wound about a longitudinal axis of said cylindrical sleeve, wherein approximately one-half of said plurality of monofilaments are wound in a clockwise direction and approximately one-half of said plurality of monofilaments are wound in a counter-clockwise direction, and said plurality of monofilaments are braided in an alternating braid pattern;
said plurality of braided monofilaments comprises at least one biocompatible polymer, and said cylindrical sleeve having a controllable in vivo lifetime; and
said self-expanding stent being annealed, and gamma-irradiated by exposure to gamma irradiation in an amount in the range of approximately 35 kGy to 75 kGy.

10. (original) The bioresorbable, self-expanding stent of claim 9 wherein said plurality of monofilaments ranges from 30 to 48 monofilaments.

11. (original) The bioresorbable, self-expanding stent of claim 10 wherein said plurality of braided monofilaments comprise 40 monofilaments.

12. (original) The bioresorbable, self-expanding stent of claim 9 further including a single strand shift between each adjacent monofilament.

13. (original) The bioresorbable, self-expanding stent of claim 9 further including an as-braided braid-crossing angles ranging from approximately 100° to 150°.

14. (original) The bioresorbable, self-expanding stent of claim 9 further including an as-braided braid-crossing angle of approximately 110°.

15. (previously presented) The bioresorbable, self-expanding stent of claim 9 further including a post-annealed braid-crossing angle ranging from approximately 125° to 150°.

16. (original) The bioresorbable, self-expanding stent of claim 9, wherein said braid pattern is selected from the group consisting of under-one-over-one, under-one-over-two, under-one-over-three, under-two-over-two, under-two-over-three, and under-three-over-three.

17. (cancelled)

18. (currently amended) A bioresorbable, self-expanding stent comprising:
a tubular sheath having a first end and a second end; and
a fenestrated walled surface disposed between said first end and said second end,
said fenestrated walled surface comprised of at least one biocompatible polymer,
said fenestrated walled surface having a controllable in vivo lifetime; and
said self-expanding stent being annealed and gamma-irradiated by exposure to gamma irradiation in an amount in the range of approximately 35 kGy to 75 kGy.

19. (original) The bioresorbable, self-expanding stent of claim 18 wherein said at least one biocompatible polymer is polydioxanone.

20. (original) The bioresorbable, self-expanding stent of claim 18 wherein said tubular sheath has an inner diameter ranging from 12 mm to 18 mm.

21. (original) The bioresorbable, self-expanding stent of claim 18 wherein said tubular sheath has an inner diameter of approximately 15 mm.

22. (currently amended) The ~~A~~ bioresorbable, self-expanding stent of claim 25 comprising:

~~a tubular sheath having a first end and a second end,~~ said tubular sheath having an inner diameter ranging from 12 mm to 18 mm; ~~and~~

~~a fenestrated walled surface disposed between said first end and said second end,~~
~~said fenestrated walled surface comprised of at least one biocompatible polymer,~~
~~—— said fenestrated walled surface having a controllable in vivo lifetime; and~~
~~—— said self-expanding stent being annealed.~~

23. (currently amended) The bioresorbable, self-expanding stent of claim ~~22~~ 25 wherein said tubular sheath has an inner diameter of approximately 15 mm.

24. (cancelled)

25. (currently amended) A bioresorbable, self-expanding stent comprising:

a tubular sheath having a first end and a second end, ~~said tubular sheath having an inner diameter of approximately 15 mm;~~ and

a fenestrated walled surface disposed between said first end and said second end, said fenestrated walled surface comprised of polydioxanone, wherein said tubular sheath has a controllable in vivo lifetime; and

wherein said self-expanding stent is annealed.

26. (withdrawn) A method of producing a bioresorbable, self-expanding stent comprising:

- providing biocompatible, bioresorbable monofilaments;
- braiding said monofilaments into a latticed network, said latticed network having an alternating braiding pattern; and
- annealing said latticed structure.

27. (withdrawn) The method of claim 26 further comprising:

- adjusting annealing conditions to achieve a predetermined in vivo functional life.

28. (withdrawn) The method according to claim 26 wherein said biocompatible, bioresorbable monofilaments are poly-L-lactide monofilaments.

29. (withdrawn) The method according to claim 26 wherein said annealing step further includes heating said latticed structure to 90°C in an inert atmosphere.

30. (withdrawn) The method according to claim 29 wherein said inert atmosphere is selected from the group consisting of nitrogen, argon, and helium.

31. (withdrawn) The method according to claim 29 wherein said inert atmosphere comprises a high vacuum.

32. (withdrawn) The method according to claim 26 further comprising:

- axially compressing said latticed structure by 30% to 60% prior to said annealing step.

33. (withdrawn) The method of claim 26 further comprising:

- exposing said annealed latticed structure to gamma irradiation.

34. (withdrawn) The method according to claim 33 wherein said latticed structure is

exposed to approximately 35 kGy to 75 kGy total dose of gamma irradiation.

35. (withdrawn) A method of producing a bioresorbable, self-expanding stent comprising:

- providing biocompatible, bioresorbable monofilaments;

- braiding said biocompatible, bioresorbable monofilaments into a latticed structure, wherein said biocompatible, bioresorbable monofilaments are woven in an alternating braiding pattern; and

- annealing said latticed structure at approximately 90°C in an inert atmosphere wherein said inert atmosphere is selected from the group consisting of nitrogen, argon, helium, and high vacuum.

36. (withdrawn) The method according to claim 35 further comprising:

- axially compressing said latticed structure on a mandrel by 30% to 60% prior to said annealing step.

37. (withdrawn) The method according to claim 35 further comprising:

- exposing said annealed latticed structure to gamma irradiation.

38. (withdrawn) The method according to claim 37 wherein said latticed structure is exposed to approximately 35 kGy to 75 kGy total dose of gamma irradiation.

39. (withdrawn) A method of producing a bioresorbable, self-expanding stent comprising:

- (a) providing poly-L-lactide monofilaments;

- (b) braiding said poly-L-lactide monofilaments into a latticed structure, wherein said poly-L-lactide monofilaments are woven in an alternating under-two-over-two pattern;

- (c) axially compressing said latticed structure on a mandrel by 30% to 60%;

(d) annealing said latticed structure at approximately 90°C for at least one hour in an inert atmosphere, wherein said inert atmosphere is selected from the group consisting of nitrogen, argon, helium, and high vacuum; and

(e) exposing said latticed structure to approximately 35 kGy to 75 kGy total dose of gamma irradiation.

40. (withdrawn) A method of producing a stent comprising:

selecting a biocompatible, bioresorbable polymer;

forming a tubular sheath having fenestrations from said biocompatible, bioresorbable polymer; and

annealing said tubular sheath.

41. (withdrawn) The method according to claim 40 wherein said forming step further comprises injection molding or extruding said tubular sheath.

42. (withdrawn) The method according to 40 wherein said annealing step further comprises heating said tubular sheath to a temperature of approximately 75°C for approximately one to three hours.

43. (withdrawn) The method according to claim 42 wherein said annealing step further includes exposing said tubular sheath to an inert atmosphere inert atmosphere is selected from the group consisting of nitrogen, argon, and helium.

44. (withdrawn) The method according to claim 42 wherein said annealing step further includes exposing said tubular sheath to a high vacuum.

45. (withdrawn) The method according to claim 40 wherein said forming step further comprises laser cutting said fenestrations.

46. (withdrawn) A method of producing a stent comprising:
selecting a biocompatible, bioresorbable polymer;
forming a tubular sheath from a biocompatible, bioresorbable polymer;
cutting fenestrations into said tubular sheath; and
annealing said tubular sheath to a temperature of approximately 75°C for
approximately one to three hours in an inert atmosphere.
47. (withdrawn) The method according to claim 46 wherein said annealing step further
includes exposing said tubular sheath to nitrogen.
48. (withdrawn) The method according to claim 46 wherein said annealing step further
includes exposing said tubular sheath to high vacuum.
49. (withdrawn) A method of producing a stent comprising:
providing polydioxanone polymers;
injection molding a tubular sheath from said polydioxanone polymers;
laser cutting fenestrations into said tubular sheath; and
annealing said tubular sheath at a temperature of approximately 75°C for at least
one hour in an inert atmosphere of high vacuum or nitrogen gas.
50. (currently amended) A The bioresorbable, self-expanding stent of claim 1
comprising:
a cylindrical sleeve having a first end and a second end;
a latticed network disposed between said first end and said second end of said
cylindrical sleeve;
said latticed network formed from approximately forty monofilaments helically
wound about a longitudinal axis of said cylindrical sleeve, wherein approximately twenty
of said monofilaments are wound in a clockwise direction and approximately twenty said
monofilaments are wound in a counter-clockwise direction, wherein said approximately
forty monofilaments are braided in an alternating under two over two braid pattern;

~~said plurality of braided monofilaments comprises poly L-lactide polymers, and
said bioresorbable stent having a controllable in vivo lifetime of at least two weeks; and
—— said self-expanding stent being annealed and gamma irradiated.~~

51. (previously presented) A method for using a bioresorbable, self-expanding stent comprising:

disposing said bioresorbable, self-expanding stent in a delivery system, said bioresorbable, self-expanding stent having a controlled in vivo lifetime;

inserting said delivery system into a constricted region within a body canal;

deploying said bioresorbable stent into said constricted region; and

allowing said bioresorbable stent to self-expand and restore patency of said constricted region;

said self-expanding stent being annealed, and gamma-irradiated by exposure to gamma irradiation in an amount in the range of approximately 35 kGy to 75 kGy.

52. (currently amended) The bioresorbable, self-expanding stent of claim 1 which exhibits a bilateral self-expansion force of 6N or more in a compressed state where, in the compressed state, the stent has a diameterlength that is ~~twice~~ half a diameterlength, or ~~more~~ less, of the stent in an expanded state.

53. (currently amended) The bioresorbable, self-expanding stent of claim 1 wherein the stent exhibits a bilateral compression resistance of 8N or more in a compressed state where, in the compressed state, the stent has a diameterlength that is ~~twice~~ half of a diameterlength, or ~~more~~ less, of the stent in an expanded state.

54. (previously presented) The bioresorbable, self-expanding stent of claim 1 wherein the stent exhibits a radial self-expansion force of 4N or more in a constrained state where, in the constrained state, the stent has a diameter that is less than or equal to half of a diameter of the stent in an expanded state.

55. (previously presented) The bioresorbable, self-expanding stent of claim 1 wherein the stent exhibits a radial compression resistance of 10N or more in a constrained state where, in the constrained state, the stent has a diameter that is less than or equal to half of a diameter of the stent in an expanded state.

56. (previously presented) The stent of claim 1 wherein the alternating braid pattern comprises an under-two over-two pattern.

57. (previously presented) The stent of claim 1 comprising poly-L-lactide.